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The Prehistoric Southern Islands and East China Sea Areas*

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I

The Ryūkyū islands, in the East China Sea, are connected with Kyūshū island in the north by way of the Amami-Ōshima and the Satsuman islands, and with the Philippines in the south by way of Taiwan. Among these Ryūkyū islands, the Yaeyama group are on the whole closer to Taiwan than to Japan, and particularly Yonaguni and Hateruma which are nearest to Taiwan to the west—actually Taiwan can be seen from both islands when the sky is clear. That almost no oral traditions, either on the Taiwan side or on the side of the Ryūkyūs, speak of past contacts between them, is rather curious—perhaps because no cultural communications took place during the recent periods. Nevertheless in Yaeyama in the Ryūkyūs, an oral record seems to reflect a rather vague knowledge of a large island to the south, which in all probability is the island of Taiwan.

According to Dr Tōsō Miyara (1934), people on Yaeyama once referred to Taiwan as *pitokuhai jima*, 'the island of the cannibals'. On Yonaguni, Taiwan was called the island of Ogres and was very much dreaded; it is said that the people there made giant straw sandals and set them adrift on the sea when the northern wind blew. This custom of intimidation would suggest that giants lived to the south (Inō 1918). This legend is said to derive from a custom on this island of collecting worms in the fields and setting them adrift in sandals on the day of *doumonomunun* (Mabuchi 1952). In any case, these oral traditions seem to indicate some uneasiness toward a big island lying to the south and may be due to news of head-hunting activities of the Formosan aborigines reaching the Yaeyama natives.

In mid-17th century we know that a Torobuan tribe panned gold near the mouth of the Takkili river in the northern part of Taiwan, and that among the gold panners were some Japanese; it is possible that some Ryūkyū natives also participated. According to Professor Takashi Nakamura, a Spanish traveller of the late 16th century relates that the inhabitants of the 'Lequeo' Islands traded deerskins and small golden nuggets with the Chinese territories (Nakamura 1949). Since 'Lequeo' is apparently another pronunication of Ryūkyū, the Ryūkyūans, by the mid-17th century, probably had found their way to the territory of the Torobuan tribe. Professor Mabuchi (1952), however, says that immediately after the Atayal invasion of the eastern coast, the Torobuans left their native place; their gold-panning activities came to a halt; the original location of the Torobuan tribe thus became

* The name 'Southern Islands' in the title and throughout the text is a literary translation of the Japanese word *nanto* 南島, which in Japanese usage is a synonym of the Ryūkyū islands in the geographic sense. [*Editorial Note*]

forever obscure, although fragmentary tales about it vaguely survived in the oral traditions of the present coastal peoples. Communications between the Ryūkyūans and the Formosan natives were probably severed at just about then. If among the coastal natives of Taiwan the location of such recent predecessors as the Torobuan is known nowadays only vaguely, it is not really strange that past communications between the Ryūkyūs and Taiwan has become faint and uncertain memories within three centuries. However, in the long prehistoric period we find evidence of past communications between these two regions, and also, evidence that southern Chinese influences reached the Ryūkyūs and the regions to their north; but whether they passed through Taiwan cannot be said for certain. We do discern certain cultural elements which appear to have come to the Ryūkyūs from the south by sea immediately east of Taiwan. Conversely, there are also influences spreading southward from the Kyūshū area. What follows is a study of the pattern of cultural distributions and stratifications in this area derived from our present evidence of such cultural contacts and movements.

II

From their prehistoric pottery, the islands between Kyūshū of Japan and Taiwan, ranging from Satsuman islands to Ryūkyūs, can be grouped into three culture areas—the northern, the central, and the southern (Fig. 1).

The northern culture area centres around Tanegashima and Yakujima. Covering the Early Jōmon stage through the Yayoi period, this culture area belongs largely to the prehistoric cultural sphere of Kyūshū.

The central culture area comprises the Amami-Ōshima islands and the main Ryūkyū islands. The pottery influence in southern Kyūshū reached the Amami-Ōshima area. Pottery of the Ichiki style (Late Jōmon), which prevailed from southern Kyūshū to Tanegashima, Yakujima, and Kuchinoerabu-jima, and pottery of the Issō style which occurred side by side with the pottery of the Ichiki style on Tanegashima, Yakujima, and Kuchinoerabu-jima, have been found in the lower stratum of the Ushuku shell-mound on the main island of Amami-Ōshima, together with pottery of the early period of the central culture area. Moreover, in shell-mound no. 4 at Omonawa on Tokunoshima, the lower-stratum pottery of the early prehistoric style was found in association with pottery forms similar to the Ichiki style. According to Mr Teitoku Kawaguchi, pottery of Yayoi style reached the far off Okinoerabu-jima. This influence of the northern area was felt by the central area of the Southern Islands from approximately Late Jōmon to the Yayoi-style pottery periods.

The decorative patterns of pottery of the early period in the central culture area suggest derivation from bamboo basketry motifs. It is therefore probable that in the central culture area of the Southern Islands bamboo basketry preceded pottery. This pattern underwent a gradual process of simplification to disappear in the late stage. The pottery bases were gradually reduced in size and eventually evolved into pointed bottoms. On the main island of Okinawa, prehistoric sites gradually descended from high terraces and other high grounds to the lowlands, and in the late stage were on the sea coasts. Net sinkers with mollusc shells were especially fashionable, and would suggest that net fishing was important in the late stage.

The southern culture area includes Miyako and the Yaeyama islands. The pottery of this area is totally different from that of the central. The pots excavated from Shimotabaru on Haterumajima seems to be the only archaic types found so far in Yaeyama. Although everted rims are occasionally met, most of the pots have nearly straight mouth rims and flat bottoms. Types with handles placed near the

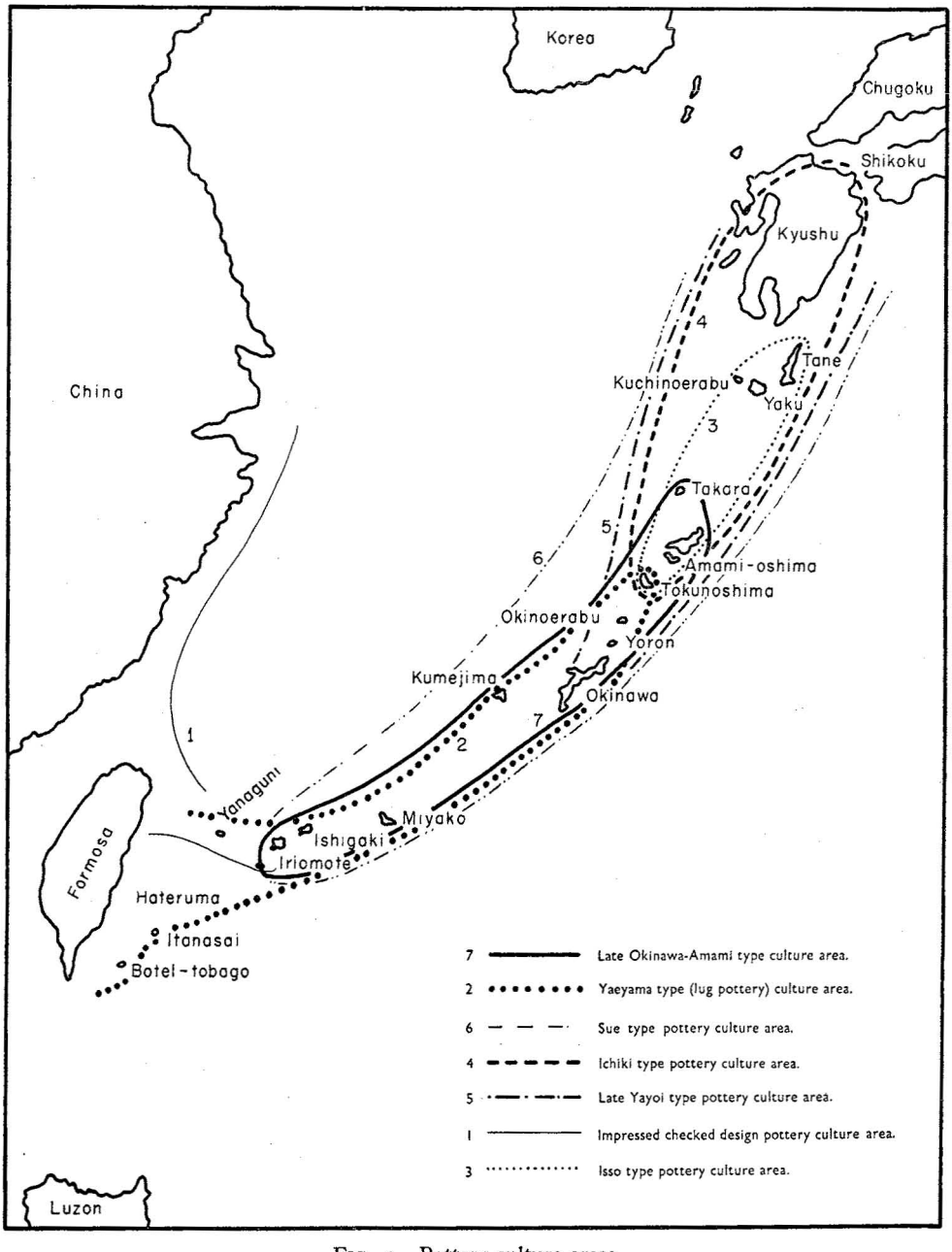

FIG. 1. Pottery culture areas.

rims were also present. Compared with the Shimotabaru type, the rims of the pottery of later stages are characteristically everted instead of straight, and types with handles are also common. At Shimotabaru, stone axes with ground or half-ground edges prevailed and were presumably farming implements. The iron hoe in use today for dry-land cultivation, called *bira*, seems to have preserved the tradition of the semi-ground stone-axe forms. This kind of stone implement appeared at Nakama shell-mound no. 1 on Iriomote before the appearance of pottery. It seems that some sort of farming culture existed in Yaeyama at an early date. Although the appearance of pottery is related to cooking in general, it is especially necessary in cooking cereals. In Yaeyama, millet may be called the most important cultivated plant. The pots used for boiling millet during the performance of millet-harvest festivals in the houses of priests on Hateruma resemble the prehistoric pottery of the Shimotabaru type. From this pottery evidence the cultivated plant in Yaeyama we may infer was on other than millet.

It is not clear why stone implements of the *bira* type are not conspicuous north of the central culture area in the Southern Islands, where wooden digging sticks seem to predominate. A wooden digging stick, once used on the island of Kume-jima, is preserved in the museum of Shuri in Okinawa. During the New Year festivities at Cape Satsuma on Kyūshū, we know of boys, in groups, playing at digging the fields with digging sticks. This would indicate a tradition of digging sticks in this region.

Taro and yams seem to have been cultivated in addition to millet. On Okinawa wooden farming implements of the *bira* type were probably used, and may have been used to cultivate wet taro preceding wet rice. Among the crops of Yaeyama a kind of yam is referred to as *bung* or *bong*. That this tuber should be used exclusively for festivities and in treating honoured guests suggests that it is a very early plant. Professor Mabuchi told me that yam was called *bung* by the Ami group on the eastern coast of Taiwan. Ami's *bung* and Yaeyama's *bung* and *bong* are obviously connected.

III

We now come to the data of cultural contacts between the prehistoric Ryūkyūs and the various regions in the East China Sea area according to archæological materials.

1. *Preceramic Period and the First Appearance of Pottery*

That human beings occupied the Ryūkyūs before the appearance of pottery is evident. On Iejima in the Okinawa group, artificially worked deer bones have been excavated (Tokunaga and Takai 1938). The large amount of clearly broken fossil deer bones in the fissures of coral reefs is indicative in some manner of prehistoric inhabitants. Beyond question the deer bones excavated from a cave at Uhji, near Chinen village on Okinawa, were broken by man. Their slight degree of fossilization however does not strongly suggest that they are of the Pleistocene period. Dr Teruhiko Senba of Kyūshū University told me that these bones are not of great geological antiquity, in his opinion. According to him the Uhji deer belonged to

the Yaku deer group; and thus it is probable that the preceramic inhabitants appeared here during the period when deer existed on the larger islands in the Southern Islands. Although we do not know what kinds of stone implements were manufactured during the preceramic period of Okinawa, we do know that stone implements of the *bira* type with ground edges appeared on Yaeyama during the preceramic period. Type sites of this latter sort include the Nakama shell-mound no. 1 on Iriomote. In the Southern Islands before the appearance of pottery, the two possible ways of cooking food were: to use shell utensils or, like the modern Polynesians, to wrap food in leaves and steam it with heated stones. Evidence of the latter method has been found in Nakama shell-mound no. 1.

The origin of pottery in the area still remains a question. Did pottery appear here as an independent invention, or was it the result of outside influence? Relevant to this question is the fact that the pottery of the central culture area (Okinawa-Amami-Ōshima) and of the southern culture area (Miyako-Yaeyama) exhibit totally different features. It is indeed very curious that the inhabitants of these different areas with the same physical constitutions and the same fishing-shifting-farming mode of life should possess pottery of such divergent types. This immediately suggests that the central and the southern areas possibly received cultural influences from different directions. Centres of powerful cultures are in fact found both to the north and to the south of the Southern Islands. The central area is subject to the influence of the southern Kyūshū culture area by way of the northern culture area including Tanegashima and Yakujima. The southern area, on the other hand, is subject to the influence of the more southerly regions such as Taiwan and Luzon; and it is also easily accessible from areas in South China. The pottery of the central area, when compared with that of the southern area, is evidently of different origin.

From the pottery of the early stage of the central culture area, one cannot deny its affiliations with the Middle and Late Jōmon pottery of Kyūshū. The bamboo basketry peculiar to the region may have strongly influenced its ceramic styles. The pottery of the southern culture area, on the other hand, must have been related to the appearance of farming cultures of southern origin, and particularly of millet cultivation with the plain, thick pottery suitable to the cooking of millet and other cereal grains. Pottery with horizontal, ear-shaped handles near the mouth rims has been seen in the prehistoric period on the eastern coast of Taiwan (Plate III). Identical lugs are also attached to some of the millet-cooking pots at Botel Tobago. Pottery with a thick wall and roundish or flattened bottoms has been found on the Hsiaoliuch'iu islet near the southern part of the western coast of Taiwan.

Although the present evidence is not yet sufficient to postulate definite historic connections between the Yaeyama area and southern Taiwan, such relationships merit further research. The method of considering the distribution of millet cultivation according to shell knives will be discussed later.

2. *Ridged Stone Axe and Axe of the* Bira *Type.* (Plate I)

The chipped stone axes in prehistoric Taiwan are generally considered cultivating implements. Among the Bunun tribe in the mountainous regions, polished stone

axes were called *tombo-madadaigas*, or 'ancestors' axes', and chipped stone axes were called *taga-madadaigas*, 'ancestors' hoes', or *tonga-bat*, 'stone hoes'. These oral traditions do suggest that the prehistoric chipped axes in Taiwan were possibly used as hoes.

In prehistoric Taiwan, chipped stone axes with a long ridge along the back are seen along both western and eastern coasts. Moreover, there was also a kind of polished ridged stone axe, designated as the stone axe of the Patu type by Dr Nenozo Utsushikawa and as the ridged, spoon-shaped stone axe by Dr Tadao Kano. Axes of this type have been unearthed from Yüanshan and the Botanical Garden in the Taipei basin, Shulin in the T'aoyüan tableland, and Yingp'u on the bank of the Tatu river. Similar objects without ridges have been found farther to the south. I concur with Dr Kano (1946:249) in considering these stone implements as digging or planting sticks; but I do not think that they were necessarily fitted with stick-shaped handles, for it seems possible they were held directly in the hand. But if we regard the chipped varieties also as digging or planting sticks, then wooden handles were probably attached.

In the Ryūkyūs, semi-polished, ridged-stone implements are conspicuous in the Yaeyama islands. Polishing was done to sharpen the edges. Since this stone implement is not significantly represented north of the main island of Okinawa, there are little chances that it came from the north into the Yaeyama area.

From their associated cultural inventories, the polished, ridged-stone implements of northern and central Taiwan appear to be related to the polished, ridged-stone implements of Hangchow Bay area and Foochow on the mainland; but the chipped ridged implements were not necessarily related to the mainland. Digging sticks are still used among the Taiwan aborigines.

In Yaeyama, the ridged-stone implements and the stone axes of the *bira* type seem to belong to parallel but different traditions; both have continued into the present time in the form of iron digging sticks and *bira*-like iron spades.

Semi-polished stone axes of the *bira* type have been found from the Early Neolithic period in Luzon. Among the ridged-stone implements of Luzon there is a kind of so-called 'roof-shaped' stone implement. On the Batanes a kind of digging-stick, with an iron spade attached, is suggestive of the ridged forms (Kano 1942; pl. 9) it is possible that the ridged-stone implement was their prototype.

From these facts, the appearance of the *bira*-type stone implements and the ridged stone implements is evidently related to farming cultures of a southern origin.

3. *Chipped Stone Axe of the* Chichivchiv *Type.* (Plate II)

The implement, which the Yami people on Botel Tobago call *chichivchiv*, is a stone axe with a neck in the middle. According to Yami traditions, it was used in cutting grass roots and weeding. This stone implement is seen also on nearby Itanasai islet, the southern part of the east coast of Taiwan, and on Hsiaoliuch'iu islet near the southern part of the west coast of Taiwan. In other words, the *chichivchiv* type of implement belongs to a culture area including southern Taiwan and its adjacent islets. Although not known in the Yaeyama area, it appears on some

parts of the main island of Okinawa and on Kumejima. Its provenance in these places is not well established, but it probably belonged to the late prehistoric period in the Ryūkyūs. It deserves closer attention and further inquiry.

4. Boot-shaped Stone Implement and the Round Axe (Walzenbeil)

Boot-shaped polished stone implements with oblique cutting edges have been found in the Nakama shell-mound no. 1 on Iriomote. They are also known in Itanasai, the small islet to the east of Taiwan and within the sphere of the Black Current. On Taiwan many such implements, either polished or rough, have been unearthed; some clearly exhibit their boot shape. The close relationship of this stone implement in Taiwan to similar objects on the mainland, particularly in China south of Chekiang, has been noted; Professor Kanaseki and I both think that these boot-shaped stone implements were used in weeding.

Since the ridged-stone implements, the boot-shaped implements, and the *chichivchiv* type of tools have been found in the Ryūkyūs, particularly in the Yaeyama group, the existence of dry cultivation of the prehistoric Taiwan type in the Yaeyama area can be postulated. Except for the ridged implements, these types are not as significantly represented in Yaeyama as on Taiwan; but the ridged implements were more prevalent on Yaeyama than on Taiwan. The basic stone inventory of Yaeyama consists of ridged implements as well as round axes (Walzenbeil) and *bira*-type implements with polished edges.

On the other hand, on Taiwan both semi-polished *bira*-type implements and round axes are rare. The semi-polished *bira*-type implements have been unearthed at the Chushan site in the central part of the Taiwan west coast and its vicinity. At this site cist graves have also been found. This and the quartz-schist bracelets also discovered here indicate connections with the east coast. Should semi-polished *bira*-type implements appear on the east coast of Taiwan it would be of great interest, but this remains to be investigated.

The Walzenbeil is represented by the oval axes on Botel Tobago and Itanasai east of Taiwan, but without a single report of its occurrence on Taiwan east coast. On the west coast it has been found in the northern part and is among the spoon-shaped (Kano's) or the *patu*-type (Utsushikawa's) implements which have no central ridge and oval or widely oval cross-sections. The blade of the axe is occasionally spoon-shaped. The non-spoon-shaped variety is certainly within the range of Walzenbeil as the term is generally understood. The spoon-shaped axes have thin edges and are apparently earth-digging implements.

Although the wood-working stepped adzes belong to the rectangular axe group, some, such as the so-called stepped columnar adze, can also be included in the Walzenbeil tradition.

The cultural inventory associated with the stone implements of the Walzenbeil tradition in northern Taiwan suggests that its origins should be sought for in the prehistoric cultures of South China. On the other hand, both the Walzenbeil of Botel Tobago and Itanasai, and the semi-polished *bira*-type implements and Walzenbeil of the Ryūkyūs must be related to the Early Neolithic cultures of Luzon.

5. *Trapezoidal Gouge Form and the Hogback Form*

Coming to the woodworking implements, the so-called trapezoidal gouge forms were evidently used in carpentry, and the axes made of giant clam shells are similar implements. Instances of both have been reported from Ishigaki and from Okinawa. The adze with a hogback cross section seems again to be a woodworking implement; it has been found in the Yonaguni and Hateruma islands.

Trapezoidal gouge forms have been reported in Taiwan from Botel Tobago only. They were made of basalt and are finely manufactured and sharp. They are similar in shape to the iron woodworking tool, called *uma*, of the Yami islanders and may very well have served as the latter's prototypes.

The origin of the trapezoidal gouge forms is also thought to be in the Luzon area.

6. *The Stepped Adze*

The polished stepped stone adze prevalent in the Taipei basin in northern Taiwan is considered to be a woodworking implement and is associated in that basin with polished shouldered axes. The stepped adzes and shouldered axes in prehistoric Taiwan apparently originated in the prehistoric period of South China.

In the Yaeyama archipelago, roughly manufactured stepped adzes have been found on Hateruma, Iriomote, and Ishigaki. Since this type of stone implement has not been found north of the Okinawa islands, it is unlikely to have originated in the north. Its complete absence from the east coast of Taiwan and from Botel Tobago and Itanasai would rule out that the stepped adze came to the Ryūkyūs from this region. The stepped adzes from the Yaeyama islands are very primitive; that the Luzon type of stepped adze in South China served as their prototype is unlikely. It may just be that the coarsely made, handle-attached stepped adzes of the Yaeyama islands were indigenously developed.

7. *The Quadrangular Adze*

Stone adzes of quadrangular or rectangular cross section are practically unknown except on Ishigaki and Miyako. This type of implement, which invariably occurs in South China and Yayoi cultures, is found neither in the Yaeyama area nor in other island groups in the Ryūkyūs (with very rare exceptions). This is also true of stone knives. We may conclude, therefore, that neither the South China rice culture from the continent nor the Yayoi rice culture from the north appears to have come into our area during the prehistoric period.

8. *Millet-harvesting Implements: The Shell Knife*

Millet-harvesting implements are frequently made of shell. The Manobo people of Mindanao use shells today in harvesting millet; here and there in the Yaeyama islands shell is used also for this purpose. On Tunoshima in the Hibiki Nada Sea, near Japan, ear shells are used in harvesting. For prehistoric examples, objects cut from the edges of the pearl shell have been reported from Itanasai islet near Taiwan.

In the Yaeyama area, two objects made of shell edges have been reported from Shimotabaru on Hateruma. Objects with saw-shaped edges made from clam shells have been taken from the lower cultural stratum on Yabuchi, near Cape Katuren

on Okinawa. These are evidently millet-cutting implements. Farther to the north, ear-shell knives have been found from Final Jōmon–Early Yayoi remains at cave sites on Umashima in the Hibiki Nada Sea.

Ear-shell knives have been found in the Bishamon cave on the Pacific coast of Miura Peninsula. These prehistoric shell tools are considered to be the prototypes of the harvesting tools used today in the Ryūkyūs, on Tunoshima, and among the Ainus.

Artifacts of shells, with the tops knocked off and the edges ground, have been unearthed from the prehistoric strata in Hengch'ung cape in Taiwan, Itanasai islet, Yonaguni, and shell-mound no. 4 of Omonawa. Shell sinkers with perforated tops have been discovered in prehistoric shell-mounds in Taiwan, Yaeyama, Okinawa, and Tokunoshima, and in Late Jōmon shell-mounds in Kyūshū. This distribution of the shell knives in the Black Current regions (Fig. 2) would indicate a movement of millet-growing fishermen.

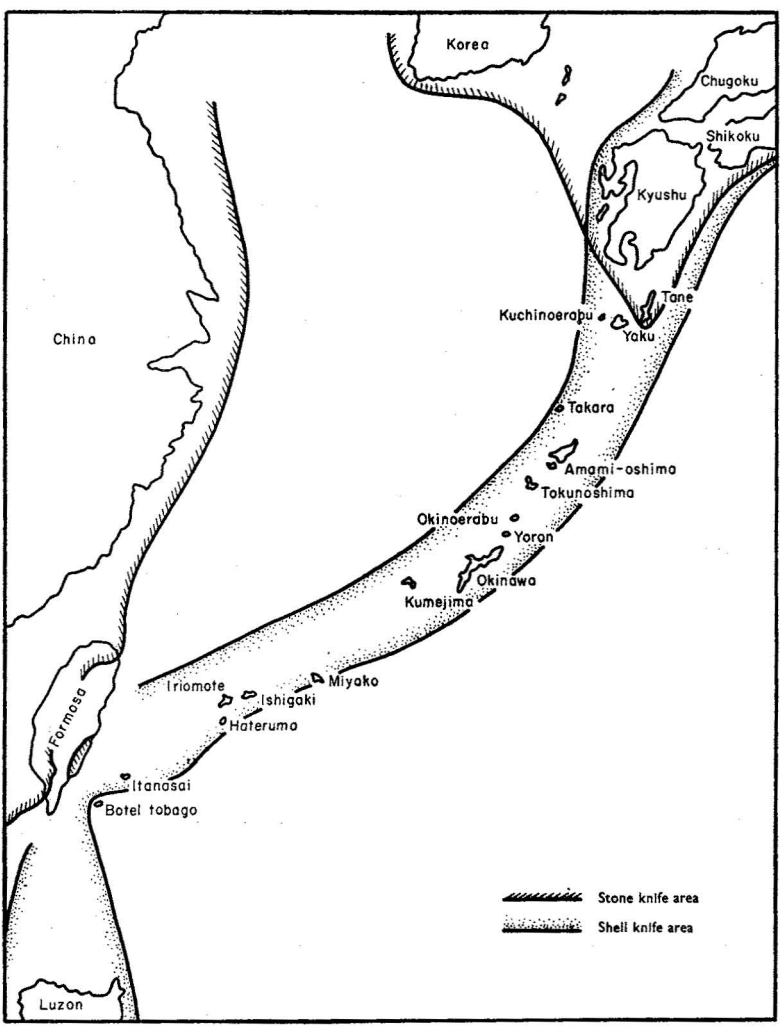

FIG. 2. Culture areas of knives.

9. *Rice Cultivation and Harvesting Implements*

Was rice cultivated in the prehistoric Ryūkyūs? A potsherd of the Yaeyama type with Indica-type rice grain impressions has come to light from the Yambaru shell-mound on Ishigaki, which is thought to date from the last stage of the Yaeyama prehistoric period. It is evident that rice of the southern system existed here during that period. Dry-land cultivation is practised at the place on this site, and probably the prehistoric rice in the same region was dry rice also.

With few exceptions, stone knives do not occur in the Ryūkyū-Amami islands. From the Katena shell-mound in Okinawa a chipped, holeless stone object of knife shape was taken.

Modern rice of the Southern Islands includes both Japonica and Indica varieties, but their origins are not clear. If the rice came here from Kyūshū, it must have come after the stone-knife period. Sue pottery, which appeared in the various places in the Southern Islands however, is suggestive in this respect, and it is possible that the Japanese rice penetrated the south in this period. Wheat is perhaps another crop that came south at the same time. The white garments worn by female shamans in the rituals performed in the woods and in their other rituals probably derive from the influence of ancient Japanese rituals after the Kofun [古墳 Ancient Tombs] period. Probably during the Nara dynasty, when the Southern Islands were officially explored and searched, these influences came into our area.

Furthermore, in the Southern Islands some techniques of cultivating wet crops are identical with those known from both archipelago and mainland parts of Southeast Asia. They reveal the absence of plow and the working of wet fields with domestic animals. How these techniques reached the Southern Islands is still unknown.

10. *Impressed Pottery*

The Sue pottery of Kyūshū tradition is not seen in the Ryūkyūs, but impressed pottery, related to the impressed pottery of northern Taiwan, has been found in Hateruma. What were the contacts between the inhabitants of northern Taiwan and prehistoric Hateruma, as evidenced by the impressed pottery, have yet to be determined; but that the impressed pottery first appeared at a later period than the Shimotabaru-type pottery is clear.

11. *T'ao-t'ieh* 饕餮 *Engravings and Animal Pendants.* (Plates IV, V)

In the animal art on the islands between Kyūshū and Taiwan in the Black Current route is an engraving motif that was possibly related to the *t'ao-t'ieh* complex of ancient China. It has so far come to light on both Okinawa and Tanegashima.

The most remarkable findings from Okinawa are the animal-shaped bone artifacts from the Kanegusuku shell-mound. They appear to be a kind of 'winged dragon', to use Bernhard Karlgren's terminology. According to Professor Hiroe Takamiya, who investigated the shell-mound, it dates to the end of the early prehistoric period in Okinawa which probably corresponds to the Late Jōmon stage of prehistoric Kyūshū. The winged-shaped objects found in association with secondarily buried

bones at Hirota on Tanegashima recall the wing parts of the animal figures found in the Kanegusuku shell-mound. Decorative patterns like these are also found worked into the designs of bronze mirrors in ancient China. The Hirota burials can probably be dated to the Middle–Late Yayoi period. At this site, *t'ao-t'ieh* engraved shell objects and dragon shell pendants have been found in association with many human skeletons. With a single exception, these *t'ao-t'ieh* shell pendants were found with the skeletons of women, possibly shaman-like characters. The bones of the only male were judged by Professor Takeo Kanaseki and other physical anthropologists to be rather feminine. From these findings, androgynous shamans may be suspected (Kokubu 1963). Double-sexed shamans have been recorded in Taichu's *Notes on the Religion of the Ryūkyūs* (1605), and even now we find male shamans who wear female garments.

At the Hirota site a shell tablet incised with the Chinese character 山 *shan* (*yama* in Japanese, i.e. 'mountain') has been found with some secondarily buried bones. Professor Kanaseki told me that the character was written in the *li*-style—that is, the scribes' style of the Former Han Dynasty in China (Karlgren 1954: 193). The occurrence here of a Chinese character in ancient calligraphy is extremely interesting.

Kuo Mo-jo, the distinguished archæologist, wrote to me that the Hirota *t'ao-t'ieh* patterns fall within the decorative variations of the Warring States period in ancient China.

T'ao-t'ieh patterns have been found also, in Okinawa on bone engravings excavated from the Sachihija, Yashima, and Katena shell-mounds, which all date approximately from the early prehistoric period of Okinawa.

Shell objects of animal shape but without engraved designs, according to Professor Clement W. Meighan and Professor Hiroe Takamiya, have been found in the Atutabaru shell-mound on Okinawa, which probably dates to the late stage of the Okinawa prehistoric period.

Some shell objects found here are shaped like the so-called 'trunked dragon' of Bernhard Karlgren, and others are rhinoceros-like animals. Inasmuch as the Ryūkyū islanders are simple farmers and fishers in an isolated area, it seems hardly feasible such animal shapes are due to their imagination and it is difficult to question an affiliation with ancient Chinese tradition.

These animal patterns or animal-like decorative designs although they disappeared on ornaments, they are found among designs for wrist tattoo on Amami-Ōshima and Tokunoshima (Obara 1947). The animal patterns in the tattoo designs must have some kind of magical significance.

At the Southern Islands, south of Okinawa, although no discoveries have been reported from Yaeyama, we have materials from prehistoric Taiwan. Mr Shushin Ozaki's collection contains objects with *t'ao-t'ieh* like patterns and cicada designs (Fig. 3). These are mixed with artifacts from Yüanshan, but they may have come originally from the Toran site on the east coast. These objects are made of quartz-schist, a stone material common to the east coast of the island. Among the findings excavated from the stone-cist graves at the K'enting site in southern Taiwan is a nephrite pendant in the shape of a human figure. Some ear ornaments discovered on Botel Tobago have comma-shaped projections. These materials from Taiwan

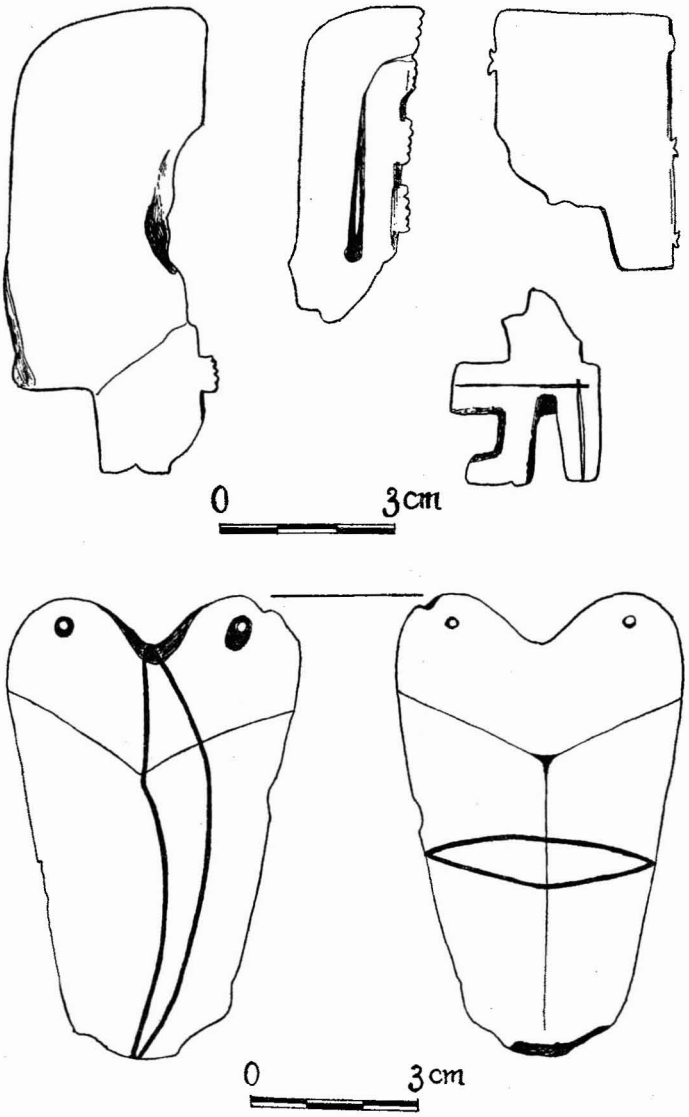

FIG. 3. Quartzschist objects in the S. Ozaki collection. They show a close resemblance to the quartzschist objects from Toran, in T'aitung prefecture, on Taiwan's east coast, where it is possible Mr Ozaki collected them. The comma shapes and the peculiar figures on these objects are worthy of attention. See Plate IV*b*.

appear to belong to a relatively late age, but both the Taiwan finds and the Ryūkyū finds have their origins in South China seems clear enough.

12. Bronzes and Arrowheads

Ming knife-coins have been discovered in the Gusuku-dake shell-mound in prehistoric Okinawa. This type of knife-coin is known from Luanp'ing in Jehol to southern Manchuria and has been reported from the Liaotung peninsula and Korea,

which shows widespread influence of the cultures on the northern frontiers of China during the end of the Warring States [戰國 403–221 B.C.] period. That the knife-coins occurred at Gusuku-dake, outside the city of Naha, indicates that this influence reached the islands to the east of the East China Sea. No other bronze artifacts in the East China Sea area are known, but recently a bronze arrowhead of the Hsiaot'un type (with two wings, long shaft, and solid stem) has been recovered from the Yüanshan stratum at the prehistoric site at Tap'enk'eng in Pali district, Taipei prefecture, Taiwan. [See Liu Pin-hsiung, page 217 in this issue.] I visited the site in April 1963 in the company of Messrs Liu Pin-hsiung, of Academia Sinica (under the auspices of which the site was excavated) and Liu Chih-wan. Liu Pin-hsiung dates the find to the Warring States at the latest. The *Ming* knife-coin from Gusuku-dake and the bronze arrowhead from Tap'enk'eng bear witness to the ancient civilizing influences of China in islands east of the East China Sea.

The prehistoric life as seen from the evidence of the Gusuku-dake shell-mound shows little change from that at such older shell-mounds as Iba and Ogidō; the decorative designs on pottery have however become somewhat simpler.

Other things in prehistoric Okinawa indicate ancient Chinese elements. In May 1960, Mr Masahide Takemoto of the Koza Central High School of Okinawa and I made a trial excavation in a cave site on the island of Yabuchi, near Cape Katuren of Okinawa, and obtained interesting data. There are two culture-bearing layers at this site: in the upper stratum we found high-fired, red potsherds; in the lower stratum black potsherds with thin walls, fired with low heat, and tempered with sand. Among the many arrowheads we found many were made of shell, and a few from bone. Some appear to be related to bronze arrowheads, such as the diamond-shaped, stemmed type, the elongated triangular type, and the stemmed, willow-leaf-shaped type. This last kind has identical counterparts in northern Kyūshū and prehistoric South Korea; it has also been found in the southern part of the west coast of Taiwan in association with black pottery. Since it is a form occurring in South China, it probably came into the southern part of the Taiwan west coast from South China together with black pottery. Among the arrowhead types of the Yabuchi island, southern Chinese forms also occur.

Nine chipped, stemless arrowheads of chert or obsidian have come from the Gusuku-dake shell-mound and two of this kind from Itoman Street, both on Okinawa. They resemble the stemless arrowheads of western Japan, ranging from Jōmon to Yayoi in time, and may very well be related to the latter. Thus arrowheads of both the South China and Kyūshū traditions occur in Okinawa.

Chipped, stemless arrowheads have been known from the Chienshan site, on the eastern bank of the upper Hsintien river in the Taipei basin, but they are very rare exceptions. Their relationship with the similar arrowheads of Okinawa of western Japan type cannot be established.

13. The Megalithic Culture

Megalithic structures of the prehistoric period have been found on the Taiwan east coast. Excavations undertaken at the stone pillar remains at Peinan, near Taitung, show clearly they are stone-house remains. Stone pestles and what can

probably be called stone pig-feed containers were found together. The east coast has rock-cut coffins of prehistoric periods.

When Dr Erika Kaneko and I were investigating Yaeyama in 1961, we found at old houses huge stone posts cut from coral reefs. Below a cliff-burial area, known as the *kusa no kan no daya* (house of the grass spirits), we discovered rock-cut coffin-like stone objects. The culture of the east coast of Taiwan, so far as it concerns stone houses and other stone structures, appears in at least a part of the Yaeyama area.

Heine-Geldern thinks that the megaliths had for function a magical virtue of promoting fertility. The *bijil* (menhir) and stone platform of the Ryūkyūs seem to serve as a sacred place as well as the centre of the village life, and are known as *ugan* or *utaki*. Ancestral spirits move with the *bijil* as a base, which is also the locus of feasts to the ancestral spirits. Cattle are often used in Southeast Asia rituals; and pigs in the Ryūkyūs. The ritual uses of different animals are probably related to beliefs concerning agriculture and domestic animals.

14. Wild and Domestic Animals

Although our discussion has chiefly dealt with archæological remains, wild game and domestic animals, which were important to prehistoric man, also throw light by their distribution on the historic relationships of the islands on the southeastern margins of the East China Sea area.

The earliest animal in the Ryūkyūs, which may have existed here in the Pleistocene, is the deer. Tokunaga (1938) found among the fossil deer bones in the fissures in the coral reefs at Iejima some with artificial perforations; but whether they derive from Pleistocene deposits is undeterminated. In the Shuri Museum, Okinawa, I saw semi-fossilized deer bones unearthed from the Uhji cave near Chinen village; definitely they were broken by man and probably discarded after eating. In the clay attached to some of these deer bones can be seen very fine fragments of pottery and charcoal grains. These are evidently not nearly so early as the Pleistocene but can probably be dated to the beginning of the prehistoric period on Okinawa. An ashy layer lies above the stratum bearing deer bones, and on top of this is a cultural stratum containing Iba-style pottery—the bottom layer can thus be roughly dated. Whether the Uhji and the Iejima deer were of the same variety is still unclear but, according to Dr Senba, the Uhji deer is identical with the Yaku deer now living on Yakujima—that the Yaku deer existed on Okinawa is of interest indeed. It differs from both the Japanese and the Formosan deer, and probably became extinct on Okinawa early in its prehistoric period. Its former presence here would indicate that the Yaku, which is now adapted to the vast and mountainous Yakujima, at that time had a wider distribution in suitable environments.

Pig remains have been found in many shell-mounds in the Amami-Ōshima islands. Since pig bones are not found in Pleistocene deposits, apparently the pigs of the shell-mounds were introduced. The wild pigs on Iriomote island and other islands the size of Okinawa, are possibly derived from the domestic pigs. How the pig came into the prehistoric Ryūkyūs will only be known by a comparative study of the native pigs of the various regions of Southeast Asia.

Some of the Okinawa pigs were introduced from China in recent centuries. According to Mr Fuyu Iba (1938), who has collected oral traditions, indicate that pigs came from Shantung province in the beginning of the Ming Dynasty. But among the immigrants of the early Ming Dynasty, the so-called Thirty-six Families came from Fukien, and through them probably the pigs and pig-raising techniques of South China were then also introduced. Toward the end of the 15th century, fishermen from Chejudo (Quelpart island) who had drifted to Yonaguni, on their return home reported that on Okinawa there were cattle, horses, pigs, and goats, but that there were no privies, and defacation was done in the fields. If so, the pig-raising techniques, related to the construction of toilet shacks, were only introduced after contacts with South China during the Ming dynasty.

However, on Botel Tobago pigs were fed on the excretions in the fields. The Formosan Chinese also practised field excretion before the toilet shacks became popular, and probably they also fed their pigs in the same way.

Taro and other feeds were boiled, placed in troughs, and prepared with a crusher; the pig-troughs and the crushers used by the natives of Luzon, the aborigines of Taiwan, and the inhabitants of the Southern Islands are similar in form, and this may give a clue to the distribution of pigs with small bodies like the wild ones.

Small horses such as the Miyako pony and the Tokara pony are found all over the Ryūkyū. The same horses are also seen on Cheju-do. Their presence in the prehistoric Ryūkyūs is witnessed by the discovery of small horses in the Jiarabaru shell-mound on Okinawa. Similar small horses are also found in prehistoric Japan. Their northern limit is suggested by the findings from the Late Jōmon stratum at the Yoyama site in Chiba prefecture. The situation in prehistoric Taiwan is not clear, but Huang Shu-ching's *T'ai Hai Shih Ch'a Lu* 臺海使槎錄 records the occurrence of small horses in Taiwan, and the existence of 'mountain horses' in the interior mountains is documented. The *kuo-hsia* 果下 horse in ancient South China was a kind of small horse. The fact that the typical small horses are found today in the mountainous regions of Szechwan, Yünnan, and Kweichow and are known here as the Szechwan pony, suggest that the hilly regions on the periphery of South China were probably the homeland of the small horses on the mainland. But their modern distribution is extended to Annam on the Indochina peninsula and to Luzon, Celebes, Sumatra, Java, Lombok, Soemba, and Timor in the inland areas. The question now is from what part of East Asia was the small horse introduced into the region from the Ryūkyūs to Japan.

The small black-, white-, and brown-spotted goats that are now found in the Philippines, Botel Tobago, Yaeyama, and Okinawa and which are known to have existed on Yakujima, are apparently of Philippine derivation, but as their bones have not been found in prehistoric shell-mounds in Amami-Ōshima, they were probably introduced by relatively recent seafarers.

The distribution and genetic relationships of domestic animals can throw light on the genetic relationships between their human domesticators, but a thorough comparative study of domestic animals in East Asia is a feast for future investigators.

15. Tooth Extraction, Tooth Deformation, Tattoo, Betel-nut Chewing, and Tooth Blackening

Tooth extraction evidence has been found in the relatively recent cliff burials on Tokunoshima, Ishigaki, and Yonaguni. The custom seems to be of rather late date in this area; it also occurs in Hirota on Tanegashima. From burials of the Middle–Late Yayoi period there, forty adult jaw bones have been completely restored. Among these, 31 show evidence of tooth extractions, and probably this custom can be traced back to the Hirota period. It is interesting to note that some of these features resemble those of the aboriginal Indonesian peoples on Taiwan (Nagai 1961).

Examples of horizontal cutting of teeth come from the Final Jōmon stage site at Nagasaki-bana on Tanegashima—this custom of deforming teeth existed among the Philippine natives.

Sharpening the teeth into points is another custom. Its presence in prehistoric Japan has been established from the Late and Final Jōmon shell-mound at Ikawatu, Aichi prefecture.

Tattooing is widely found in the Amami islands of the Ryūkyūs, and was known in ancient Japan. The 'Biography of the Wo People', in *Wei Chih*, records that the inhabitants along the coast of Bodo Wan in the third century 'tattooed their faces and bodies to avoid injuries from snakes'. Among the human figurines from prehistoric Japan is a group with symmetrical lines incised on the faces. These are dated to the Middle and Late Jōmon periods, and this has been interpreted as indicative of the custom of tattooing. It is also noted among the inhabitants of ancient China, and is a prominent feature in the Philippines.

Chewing betel-nut is widely practised in South China and in both the mainland and the island parts of Southeast Asia. The prehistoric human skeletons found at K'enting in Taiwan bear also evidence of betel chewing, but the custom is not practised in Japan and the Southern Islands outside the area of betel tree distribution. In the mountain regions of Taiwan betel trees are few, and some bear no nuts; here again the custom did not arise; but the natives extract the juice from some tree to colour their teeth. In Japan there is a closely similar practice.

The customs of tooth deformation, tattoo, betel-nut chewing, and tooth blackening probably should not be considered singly, since they appear to form a whole complex, which has persisted in the East China Sea area from prehistoric times.

16. Head Deformation

Among the skulls found in the Hirota burials on Tanegashima, one was evidently deformed by a head-band. There are roundish impressions on the forehead and grooves on the sides of the skull. This skull belonged to a male skeleton which, however, shows female characteristics. The types of ornaments that have been found with female shaman skeletons were found with this burial, and it is postulated that this was a double-sexed shaman (Kokubu 1963).

Shell ornaments found near the foreheads of skeletons in some of the female burials are band-shaped—probably headdresses made of shells.

Some features of these customs are shared by the native peoples in the south.

From the Yayoi-stage skeletons in Kyūshū, impressions on the forehead made by carrying-basket bands have been noted and indicates in prehistoric Japan a portage technique identical with that of Taiwan and the islands in the south.

17. Double Burials, Multiple Burials

The custom of collecting the bones some time after the initial burial is widely distributed in South China, Taiwan, and the archipelago part of Southeast Asia. In the Southern Islands this is also seen in the entire area of the Amami islands, and it extends as far north as Izu Ōshima. In Japan proper it has been noted in Kyūshū and Chūgoku, and South Korea also had the same custom.

In the prehistoric Southern Islands, the secondary burials found at Hirota on Tanegashima are the most remarkable. Evidence of secondary burial is known from Late Jōmon sites, reaching as far north as the northern part of Ōu. The modern double-graveyard system peculiar to the central part of Honshū was probably derived originally from the secondary burial (Kokubu 1963).

Intensive investigations of the secondary burial custom in the Ryūkyūs and Japan proper show that the second burial by no means marked the end of the burial rites. The bones, freed from decomposed flesh, received sacrifices as the loci of ancestral spirits, and many last rites were then involved. This is the multiple burial system; I have not yet come across any data on the third burials in the East China Sea areas.

IV

Finally, some concluding remarks. According to Professor Otley Beyer, in northern Luzon there are aboriginal peoples of the Ainu type. Professor Takeo Kanaseki has discussed the physical relationship between these aborigines and the inhabitants of the Southern Islands. Stone implements closely resembling the farming implements of the Early Neolithic of the Philippines occur significantly in the Yaeyama islands as well as in prehistoric Japan. They occur in some of the early sites in Kyūshū, and in later sites. The relationship of the prehistoric Ryūkyūs with the South cannot be denied, and southern influences apparently reached as far as Japan proper in prehistoric times.

We may also postulate that, in the course of migrations from the Philippines, Taiwan was sometimes reached, and settlements were established here. In such cases, the migrants settled in this relatively large island, and further expansions into the small islets ceased.

The movements from the south toward the Ryūkyūs must have taken place during a fishing-shifting-farming stage prior to the establishment of sedentary cultivation. This course was likely by way of the islands east of Taiwan, and Taiwan itself was probably bypassed, even though contacts with the eastern and northeastern coasts of Taiwan must have taken place.

Much about the cereal cultivation in the Ryūkyūs is still unknown, but apparently millet appeared on Yaeyama during the prehistoric period.

In prehistoric Taiwan cultural influences came both from the south and from the mainland. Accordingly, prehistoric Taiwan served as base for the highly

interesting composite culture in the East China Sea area, a culture composed of elements of both insular and continental traditions.

The southeastern part of the mainland was the base of the powerful culture that extended to various regions in the East China Sea area deep and far-reaching influences. Even though this region and the Ryūkyūs are fairly distant, contacts clearly were not lacking.

Kyūshū and the large islands to its south, such as Tanegashima and Yakujima, were the base of the northern culture of the Southern Islands. It is difficult to explain why people should move from the Kyūshū area into the Southern Islands where the living conditions were poor. Relevant to this are the contacts between the Kyūshū area and the Southern Islands. Probably there was no intensive migration from the north, like the northward migrations of the islanders.

Since the typological development of the prehistoric pottery in Japan has been well formulated in chronological stages, wherever the prehistoric pottery is found, the time depth of the cultural layers can often be determined.

The appearance of impressed pottery on Hateruma can be dated to the late prehistoric period of Yaeyama. The remains on Ishigaki with 豆 *tou*-shaped pots and 鼎 *ting* tripod feet are discoveries attributable to the late stage. During this stage the late prehistoric pottery of Okinawa appeared on Yaeyama, and the late prehistoric pottery of Yaeyama reached Tokunoshima of the Amami group by way of Okinawa. Although Sue-type pottery appeared in the late prehistoric period of the Amami group, it has recently been established that the late prehistoric pottery of Okinawa and Amami occurred on Takarajima in the Satsuman group in association with Yayoi-type pottery. Furthermore, the time range of the Ryūkyū prehistoric pottery is indicated by the finding of late Jōmon pottery from the southern part of Cape Satuma.

Southern Chinese elements such as the *t'ao-t'ieh* engraved pendants and the animal pendants occurred in the early prehistoric period on Okinawa and in the middle and late prehistoric periods on Tanegashima. The time range of the appearance of such cultures is thus indicated. These patterns survived in subsequent periods among tattoo designs, suggesting a rather strong persistence of the southern Chinese traditions in this area.

In prehistoric Japan, dragon-like animal shapes or forms derived from them have been found from late Middle and late Final Jōmon sites in the Tōhoku area. Related also to this tradition are the *magatama* beads persisting from Late Jōmon through the Kofun 古墳 period. The time range of this tradition appears to be unexpectedly long.

It is difficult to imagine, however, that such animal shapes or their derived forms in prehistoric Japan proper came by the same route which took this tradition to the Southern Islands. Such objects probably also came into Taiwan quite separately.

Tooth extraction is a Late Jōmon custom in Japan, and it is therefore possible that it could have existed in the Southern Islands as far back as the early prehistoric pottery period at the latest.

Tattooing is another custom that occurs in the southern part of the East China Sea area. The archæological determination of its occurrence is difficult, but it

apparently has been in existence in the Southern Islands and in Japan proper since prehistoric times.

The secondary burial custom which is substantially represented in the southern part of the East China Sea area is widely noted from the Southern Islands. It extended farther east from Kyūshū, but changed into the double graveyard system.

From the evidence given here, the historic connections between the Southern Islands and the various regions of the East China Sea area are clearly extensive and significant and yet fishing and shifting-farming cultures have persisted on most of the islands, and exhibit insular characteristics. The navigational seasons are limited in this region, and the Islands' productivity is generally low because of the thin topsoil on the islands. These physical factors in large measure would account for the cultural characteristics of this area.

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Half-polished stone axes (See pages 228–9)
a. Bira type from Shimotabaru, Hateruma.
b. From Chushan, Formosa.

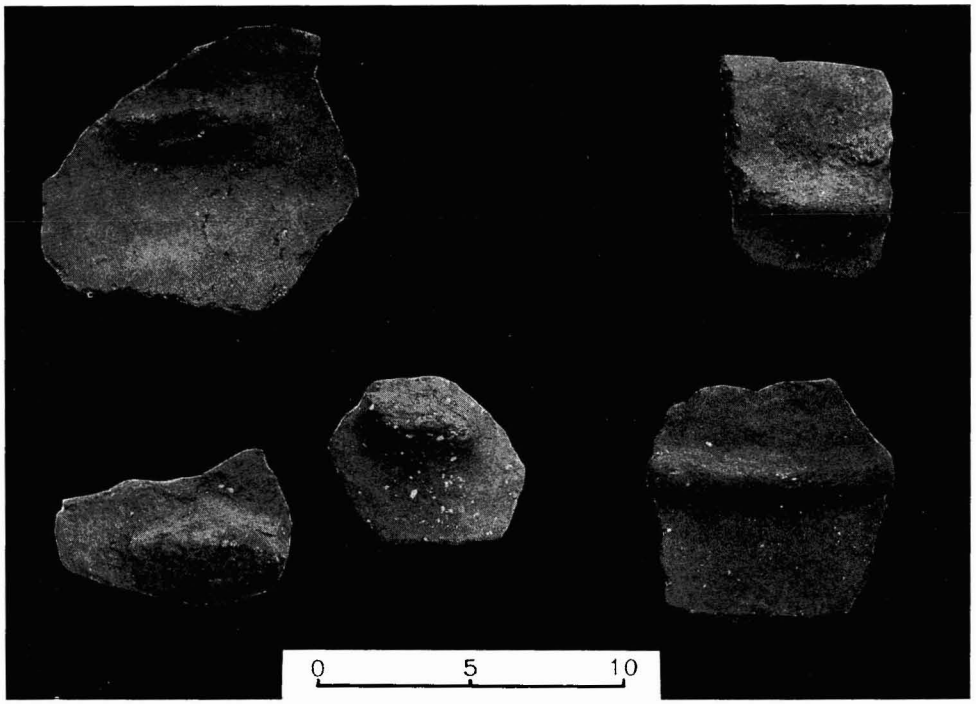
Facing page 242

Edged and chipped stone implements.

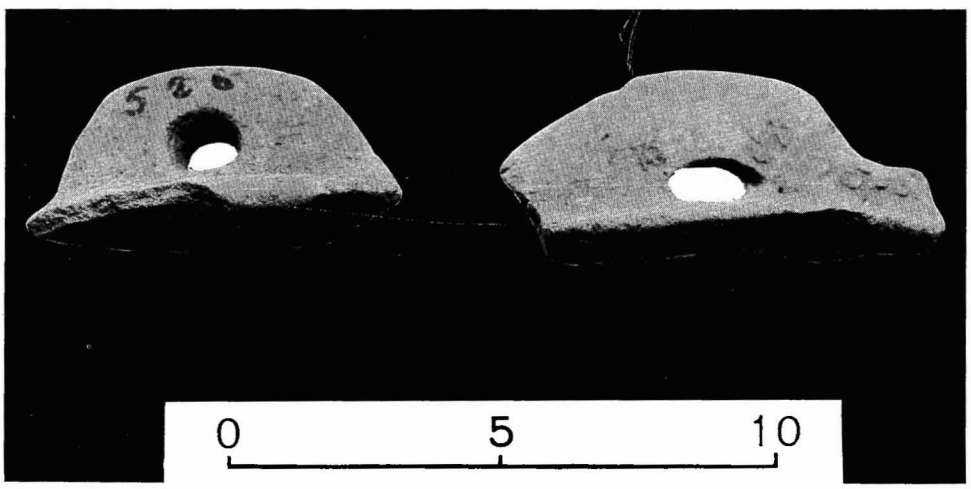
a. Edged stone implements (left and middle, chipped stone implements from Ts'aolo, Hsinchu prefecture; right, polished stone implement from Yingp'u, T'aichung prefecture).

b. Chipped stone implements, *chichivchiv*, from Botel-Tobago island (See page 231)

a



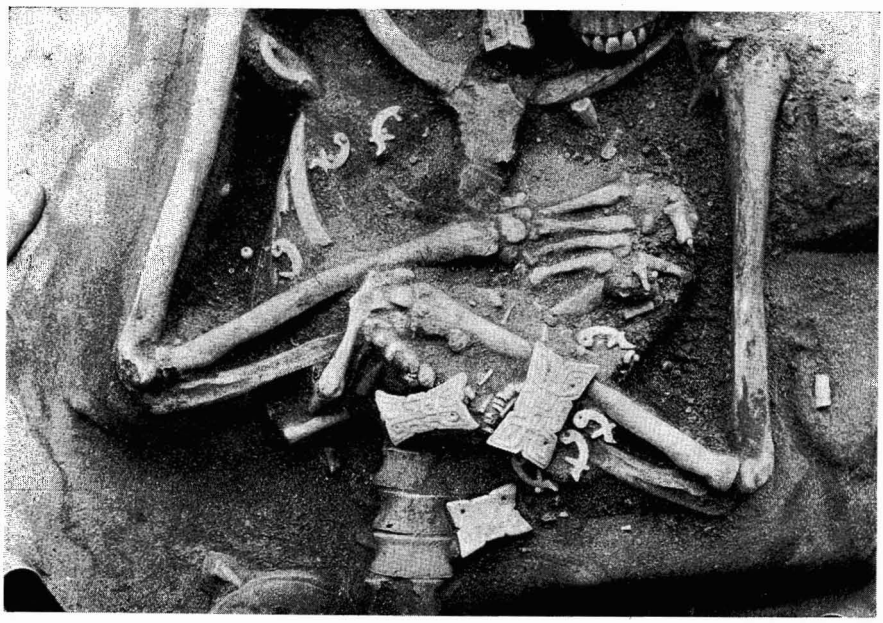
b



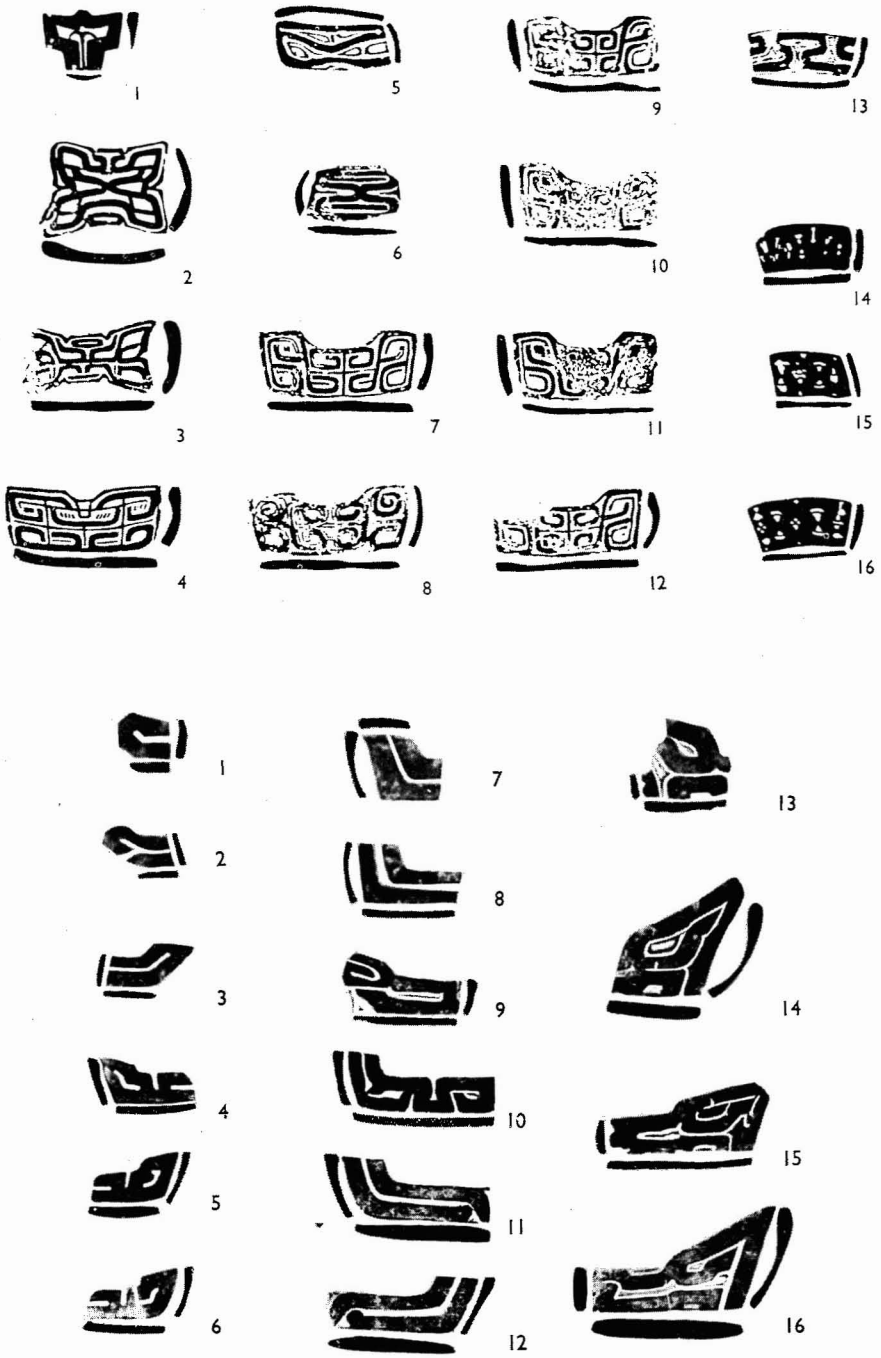
Lug handles of potsherds.
a. from Ishigaki island (See page 128)
b. with perforations from T'aitung area, Taiwan.

a

b



A male shaman buried in female attire, excavated from Hirota, Tanegashima.
a. Whole view. *b.* Closer view of the chest region, showing *t'ao-t'ieh*-like objects and dragon pendants (See pages 233, 235)



T'ao-t'ieh-like objects from Hirota, Tanegashima (See page 233)
Upper: Objects associated with female shaman burials.
Lower: Objects associated with secondarily buried bones.